

## REMARKS

This communication responds to the Office Action mailed on November 15, 2007.

Claims 1, 8, 14, 19 and 22 are amended, claims 6 and 18 are canceled, and no claims are added in this communication. As a result, claims 1-5, 7-17, and 19-26 are now pending in this application. The title of the application has been amended as suggested by the Office.

### Objections to the Claims

Claim 19 was objected to due to informalities. Applicant has amended claim 19 and believes that this amendment overcomes the objection to claim 19. Applicant thus respectfully requests the withdrawal of the objection to claim 19.

### Interview Summary

Applicant thanks Examiner Habte Mered for the courtesy of a telephone interview on November 21, 2007 with Applicant's representative Mark V. Muller. In the telephone interview, the Examiner corrected the cited Patent Application Number for Shattil II from 2003/0227985 to 2002/0150070.

### §103 Rejection of the Claims

Claims 1-14, 16-18 and 22-26 were rejected under 35 USC § 103(a) as being unpatentable over Shattil (U.S. 2004/0086027) in view of Priotti (U.S. 2004/0120410). Claim 15 was also rejected under 35 USC § 103(a) as being unpatentable over Shattil in view of Priotti and further in view of Shattil II (U.S. 2002/0150070). Claims 19-21 were also rejected under 35 USC § 103(a) as being unpatentable over Shattil in view of Schill et al. (U.S. 2003/0227985, hereinafter "Schill") and Shattil II.

Applicant reserves the right to swear behind these references at a later date. Applicant respectfully traverses the rejection of these claims under 35 USC § 103(a) for the reasons stated below.

In order for the Examiner to establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Applicant respectfully submits that the Office Action did not establish a *prima facie* case of

obviousness, because, even when combined, the cited references do not teach or suggest all the claim limitations set forth in the rejected claims.

Now, amended claim 1 recites:

1. A method, including:

**converting a combined plurality P of asynchronous data streams received at substantially the same time from a first time domain to a frequency domain;**

separating the combined plurality P of asynchronous data streams into a separated plurality of data streams in the frequency domain;

converting the separated plurality of data streams into a second time domain prior to the synchronizing; and

**synchronizing at least one of the separated plurality of data streams in the second time domain,**

**wherein at least one of the separated plurality of data streams is formatted according to one of an Institute of Electrical and Electronics Engineers 802.11 standard and an Institute of Electrical and Electronics Engineers 802.16 standard.**

(Emphasis added)

The Office correctly admits, “Shattil fails to teach **synchronizing at least one of the separated plurality of data streams in a second time domain**” as recited in claim 1.

Applicant submits that Shattil also fails to disclose “**converting a combined plurality P of asynchronous data streams received at substantially the same time from a first time domain to a frequency domain**” as recited in claim 1.

The Office states, “Figures 4I and 4J the asynchronous data streams by Rx and in paragraph 138 Shattil discloses multiple antennas can exist giving asynchronous data streams and in fact Figure 10B shows multiple asynchronous data stream identical to Applicant’s Figure 2.” However, a close reading of Shattil reveals this is not the case.

Referring to paragraph [0138] of Shattil cited by the Office Action,

“In some applications of the invention, receiver systems, such as receiver system 411, may include multiple antenna elements. Accordingly, receivers of the invention may be adapted to perform sub-space processing. Methods and systems of the invention may spread data symbols across multiple frequency bins and/or subspaces. Spreading may be performed by channel coding and/or multiple-access coding. Therefore, receivers of the invention may provide for decoding

(e.g., despreading) symbols modulated across multiple subspaces and/or frequency bins.”

The Office does not point out, and Applicant was unable to find any parts of Figures 4I, 4J, 10B, and paragraph [0138] of Shattil that disclose the “**asynchronous data streams**” received by the receiver Rx (receiver system 411), which includes multiple antenna elements.

The Office further asserts, “the Applicant in the specification in paragraph 2 has indicated **SDMA system is technically asynchronous** and hence Shattil shows his system supports SDMA as stated in paragraph 37 and is effectively asynchronous.” (Emphasis added).

Applicant disagrees with this assertion. Applicant submits that the Office mischaracterizes the standard, and misunderstands the Application at paragraph [002], which recites:

“In some spatial-division multiple-access (SDMA) communications systems, the SDMA uplinks may be assumed to be synchronous, such that symbols arriving from different data streams align according to timing boundaries. However, the potential 4 microsecond symbol timing error permitted by some Institute of Electrical and Electronics Engineers (**IEEE 802.11**) standards is longer than the 0.8 microsecond guard interval specified in the 802.11a standard. Therefore, **SDMA uplink communications conducted under these conditions may actually be asynchronous**, and, not synchronous as assumed. Similar problems may occur when SDMA radios conforming to **IEEE 802.16** standards are used.” (Emphasis added)

It can been seen that the Specification in paragraph [002] actually indicates that, **under the conditions** mentioned above, SDMA uplink communications may be asynchronous, rather than “**SDMA system is technically asynchronous**” as asserted by the Office. There is nothing given to indicate that successful operation under these conditions is desirable, or even possible. Indeed, the requirements of 802.11a are violated. In addition, there is no evidence that indicates Shattil teaches successful SDMA uplink communication under such conditions. Thus, it is improper for the Office to justify its conclusion that the Shattil’s system is effectively asynchronous by arguing that the system of Shattil supports SDMA as stated in paragraph [037] of Shattil.

In short, Shattil fails to disclose “**converting a combined plurality P of asynchronous data streams received at substantially the same time from a first time domain to a frequency domain**” as recited in claim 1.

Furthermore, Applicant respectfully submits that Shattil also fails to disclose the limitation “**at least one of the separated plurality of data streams is formatted according to one of an Institute of Electrical and Electronics Engineers 802.11 standard and an Institute of Electrical and Electronics Engineers 802.16 standard**” as now included in amended claim 1, which is originally recited in claim 6. Applicant was unable to find this teaching within the bounds of Shattil.

Finally, the Office does not point out, and the Applicant was unable to find any teaching within the bounds of Priotti that discloses the missing elements set forth in claim 1. Thus, even combined, Shattil and Priotti do not teach or suggest all the claim elements set forth in claim 1. Accordingly, the Office has not established a *prima facie* case of obviousness to claim 1.

Independent claims 8, 14, 19, and 22 have similar elements to independent claim 1. No combination of Priotti, Schill II, or Schill remedies this deficiency of Shattil. The conclusion with respect to independent claim 1 also applies to independent claims 8, 14, 19, and 22.

Applicant thus respectfully requests reconsideration and allowance of independent claims 1, 8, 14, 19 and 22, and their dependent claims 2-5, 7, 9-13, 15-17, 20-21 and 23-26, since any claim depending from a nonobvious independent claim is also nonobvious. See MPEP § 2143.03.

### **RESERVATION OF RIGHTS**

In the interest of clarity and brevity, Applicant may not have addressed every assertion made in the Office Action. Applicant’s silence regarding any such assertion does not constitute any admission or acquiescence. Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. § 1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicant does not admit that any of the cited references or any other references of record are relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner’s personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicant timely objects to such reliance

on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP § 2144.03. Applicant reserves all rights to pursue any cancelled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP § 821.04.

**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (210) 308-5677 to facilitate prosecution of this application. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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